

Claims

1. A method of screening for therapeutic agents useful in the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders,
5 metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of
 - 10 i) contacting a test compound with a PDE1B polypeptide,
 - ii) detect binding of said test compound to said PDE1B polypeptide.
2. A method of screening for therapeutic agents useful in the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders,
15 hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of
 - 20 i) determining the activity of a PDE1B polypeptide at a certain concentration of a test compound or in the absence of said test compound,
 - ii) determining the activity of said polypeptide at a different concentration of said test compound.
- 25 3. A method of screening for therapeutic agents useful in the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of
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- i) determining the activity of a PDE1B polypeptide at a certain concentration of a test compound,
 - ii) determining the activity of a PDE1B polypeptide at the presence of a compound known to be a regulator of a PDE1B polypeptide.
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4. The method of any of claims 1 to 3, wherein the step of contacting is in or at the surface of a cell.
- 10 5. The method of any of claims 1 to 3, wherein the cell is in vitro.
6. The method of any of claims 1 to 3, wherein the step of contacting is in a cell-free system.
- 15 7. The method of any of claims 1 to 3, wherein the polypeptide is coupled to a detectable label.
8. The method of any of claims 1 to 3, wherein the compound is coupled to a detectable label.
- 20 9. The method of any of claims 1 to 3, wherein the test compound displaces a ligand which is first bound to the polypeptide.
10. The method of any of claims 1 to 3, wherein the polypeptide is attached to a solid support.
- 25 11. The method of any of claims 1 to 3, wherein the compound is attached to a solid support.
- 30 12. A method of screening for therapeutic agents useful in the treatment of a disease comprised in a group of diseases consisting of cardiovascular dis-

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orders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of

- 5 i) contacting a test compound with a PDE1B polynucleotide,
- ii) detect binding of said test compound to said PDE1B polynucleotide.
13. The method of claim 12 wherein the nucleic acid molecule is RNA.
- 10 14. The method of claim 12 wherein the contacting step is in or at the surface of a cell.
15. The method of claim 12 wherein the contacting step is in a cell-free system.
- 15 16. The method of claim 12 wherein polynucleotide is coupled to a detectable label.
17. The method of claim 12 wherein the test compound is coupled to a detectable label.
- 20 18. A method of diagnosing a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of
- 25 i) determining the amount of a PDE1B polynucleotide in a sample taken from said mammal,

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- ii) determining the amount of PDE1B polynucleotide in healthy and/or diseased mammals.

- 5 19. A pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising a therapeutic agent which binds to a PDE1B polypeptide.
- 10 20. A pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a
- 15 mammal comprising a therapeutic agent which regulates the activity of a PDE1B polypeptide.
- 20 21. A pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising a therapeutic agent which regulates the activity of a PDE1B polypeptide, wherein said therapeutic agent is
- 25 i) a small molecule,
ii) an RNA molecule,
iii) an antisense oligonucleotide,
iv) a polypeptide,
v) an antibody, or
- 30 vi) a ribozyme.

22. A pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising a PDE1B polynucleotide.
23. A pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising a PDE1B polypeptide.
24. Use of regulators of a PDE1B for the preparation of a pharmaceutical composition for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal.
25. Method for the preparation of a pharmaceutical composition useful for the treatment of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal comprising the steps of
- i) identifying a regulator of PDE1B,
 - ii) determining whether said regulator ameliorates the symptoms of a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases,

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cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders in a mammal; and

iii) combining of said regulator with an acceptable pharmaceutical carrier.

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26. Use of a regulator of PDE1B for the regulation of PDE1B activity in a mammal having a disease comprised in a group of diseases consisting of cardiovascular disorders, metabolic diseases, gastrointestinal and liver diseases, cancer disorders, hematological disorders, respiratory diseases, neurological disorders and urological disorders.

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